Overview of SYBAC Meeting – 4/12/16

SYBAC Students present:

Caleb Beerbower, Southeast Polk HS
Brent Brain, Muscatine
Gabe Golberg, Mount Vernon HS
Austin Kallemeyn, Sioux Center Community HS
Aaron Mark, Burlington HS
Zach Mass, Treynor Community HS
Bryce Snell, Ballard HS
Brookelyn Wahlert, CAM HS
Stephanie Lapointe, Newman Catholic HS
Kaylee Daniels, Oskaloosa HS

SYBAC Students Absent:

Hunter Werner, Louisa-Muscatine Jr./Sr. Schools

Discussion: *Brent Brain* chaired the discussion.

Interactive student conservations:

Panama Papers Leak – What about this as a policy issue?
International Consortium of Investigative Journalists (ICIJ) reports that the Panama law firm Mossack Fonseca helped establish secret shell companies and offshore accounts for global power players. ICIJ reports that a 2015 audit found that Mossack Fonseca knew the identities of the real owners of just 204 of 14,086 companies it had incorporated in Seychelles.

- The information documents transactions as far back as the 1970s and eventually totaled 2.6 terabytes of data.
- Discussion included if there was a security concern since this information was first released to the public and not to law enforcement.

European Truck Platooning Challenge - Trucks communicating wirelessly and driving closely behind one another, in a method known as platooning. Using wireless technology, the trucks can drive with only about a one-second gap between the vehicles in a platoon. By communicating with each other, the trucks automatically match each other's speed and breaking. Within the challenge, there were safety drives in the trucks.

MIT designs Wi-Fi people locator - University researchers have developed wireless technology that lets a single access point spot people within inches of their locations. The innovation makes it possible to use only one access point (AP) to pinpoint a person (tracking). Smaller businesses can afford to take advantage of location-based services.

- Could be used for government security.
- It's a geographical firewall.

SunCube FemtoSat - CubeSats are miniaturized satellites originally designed for use in conjunction with university projects and are typically 10 cm x 10 cm x 10 cm (4 inches x 4 inches x 4 inches).

- Focuses include: hands on testing experience for students, miniaturized versions of current experiments, artificial gravity experiments, and giving users their own "GoPro in space.
- Cost $1000 to send a FemtoSat to the International Space Station, and $3000 to send it into low earth orbit.

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Action Item:
Brent Brain made a motion that the 2015-2016 SYBAC group considers creating a micro satellite (SunCube FemtoSat) for a SYBAC year-end project. Zach Mass seconded the motion.

All SYBAC members agreed to begin working on the action item.

- *Project Leads:* Bryce Snell (chair) Kaylee Daniels (co-chair)
- *Ideas for Purpose (Scope of Work):*
  - *Digital time capsule*
  - *Wi-fi router*
  - *Raspberry Pi*
    - *The Raspberry Pi is a low cost, credit-card sized computer that plugs into a computer monitor or TV, and uses a standard keyboard and mouse. It is a little device that enables people to explore computing, and to learn how to program in languages like Scratch and Python. It's capable of doing everything a desktop computer can do, from browsing the internet and playing high-definition video, to making spreadsheets, word-processing, and playing games. https://www.raspberrypi.org/help/what-is-a-raspberry-pi/*

Quantum cryptography - The quantum mechanics of random photon polarization: the new device generates random numbers and creates cryptographic keys fast and securely. It offers a completely new commercial platform for real-time encryption at high data rates.

Burr-Feinstein Encryption Bill - Compliance with Court Orders Act of 2016 would require tech firms to decrypt customers' data at a court's request. The bill reads if a court of law issues an order to render technical assistance or provide decrypted data, the company or individual would be required to do so.